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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 10/022,723 | 12/20/2001 | Setsuo Ohba | R2184.0128/P128 | 5577 |

24998 7590 02/24/2005

DICKSTEIN SHAPIRO MORIN & OSHINSKY LLP
2101 L Street, NW
Washington, DC 20037

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| EXAMINER |
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CHU, KIM KWOK

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| ART UNIT | PAPER NUMBER |
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2653

DATE MAILED: 02/24/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | |
|------------------------------|--------------------------------------|-------------------------------------|--|
| Office Action Summary | Application No. 10/022,723 | Applicant(s) OHBA, SETSUO | |
| | Examiner Kim-Kwok CHU | Art Unit 2653 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☐ Claim(s) 1-5,8 and 9 is/are rejected.
- 7) ☒ Claim(s) 6 and 7 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date ____ | 6) <input type="checkbox"/> Other: ____ |

Claim Rejections - 35 USC § 112

1. the following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 1-9 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

(a) in claim 1, the operation of the APC-turn off means and the APC-turn on means is not definite. With respect to lines 15 and 25, the claimed APC-turn off means and APC-turn on means both turn on and off the APC part when the recording speed exceeds a predetermined speed. It is unclear whether the APC part is turned on or turned off when the recording speed exceeds a predetermined speed; and

(b) similarly, in claim 9, the claimed steps of when the recording speed exceeds a predetermined speed, the APC part is turned on/off and therefore it is unclear that how the APC part functions when the recording speed exceeds the predetermined speed.

3. The claims not specifically mentioned above are indefinite based upon their dependence.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. § 102 that form the basis for the rejections under this section made in this Office action:

*A person shall be entitled to a patent unless --
(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by applicant for patent*

5. Claims 1-5, 8 and 9 are rejected under 35 U.S.C. § 102(e) as being anticipated by over Nakamura (U.S. Patent 6,487,152).

Nakamura teaches an optical disk device for writing information on an optical disk having all the elements and means as cited in claims 1-5 and 8. For example, Nakamura teaches the following:

(a) as in claim 1, the optical disk device having an APC (Automatic Power Control) part 7 for monitored driving of a laser diode 3 (Fig. 1);

(b) as in claim 1, preparation means for searching an unused partition of a test area of the optical disk 1 and reading out a reference power value from the optical disk (Fig. 1; test recording and reproducing; column 7, lines 9-14);

(c) as in claim 1, APC-turn off means 5 for turning off the APC part when it is determined that the recording speed

exceeds a predetermined speed (Fig. 1; laser drive circuit 4 is turned on/off to adapt a new set of test recording parameters with respect to different disk rotation speed; column 8, lines 58-67; column 9, lines 1-7);

(d) as in claim 1, first OPC (Optimum Power Control) means 6 for obtaining a first optimum writing power value by writing on the unused partition by driving the laser diode 3 at a plurality of first test laser power values centered on the reference power value (Figs. 1 and 2; center reference value is P2; column 6, lines 41-51);

(e) as in claim 1, reading out the information recorded on the unused partition and determining the first optimum writing power value (Fig. 1; test recording; column 8, lines 65-67; column 9, lines 1-7);

(f) as in claim 1, APC-turn on means 5 for turning on the APC part when it is determined that the recording speed exceeds a predetermined speed (Fig. 1; laser drive circuit 4 is turned on/off to adapt a new set of test recording parameters with respect to different disk rotation speed; column 8, lines 58-67; column 9, lines 1-7);

(g) as in claim 1, second OPC (Optimum Power Control) means 5 for obtaining a second optimum writing power value by writing on a subsequent unused partition by driving the laser diode at a plurality of second test laser power values centered

on the first optimum writing power value, reading out the information recorded on the subsequent unused partition and determining the second optimum writing power value (Fig. 1; recording controlling means 6 has a plurality of optimum power control on different rotation speed; test recording is performed on a plurality of unused disk sectors; each of the disk's rotation speeds needs a new set of test recording parameters; column 8, lines 58-67; column 9, lines 1-7);

(h) as in claim 2, a number of the second test laser power values are less than a number of the first test laser power values (Fig. 1; column 9, lines 4-7);

(i) as in claim 3, an interval (duty ratio) of the second test laser power values is smaller than an interval of the first test laser power values (Fig. 2; column 9; lines 8-33);

(j) as in claim 4, the first optimum writing power is derived using a first half of the unused partition of the test area and the second optimum writing power is derived using a second half of the unused partition of said test area (Fig. 1; test recordings according to different rotation speed are performed on a plurality of sections of a test area);

(k) as in claim 5, the first optimum writing power is derived using a second half of the unused partition of the

test area and the second optimum writing power is derived using a first half said unused partition of said test area (Fig. 1; test recording area is divided into a plurality of sections); and

(1) as in claim 8, when the recording speed does not exceed a predetermined value, the first optimum writing power value is used as a writing power value (Fig. 1; recording speeds such as 2X, 4X and 6X are used to determined optimum recording power).

6. Method claim 9 is drawn to the method of using the corresponding apparatus claimed in claim 1. Therefore method claim 9 corresponds to apparatus claim 1 and is rejected for the same reasons of anticipation as used above.

Allowable Subject Matter

7. Claims 6 and 7 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

8. The following is an Examiner's statement of reasons for the indication of allowable subject matter:

As in claim 6, the prior art of record fails to teach or fairly suggest an optical disk device having the following features:

(a) a writing operation is performed on the most recently used partition of the test area at a predetermined power value and then a writing operation is performed on the unused partition at the plurality of first test laser power values.

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Ogawa (6,704,269) is pertinent because Ogawa teaches an optimum recording power having a recording strategy storing section.

Sasa et al. (6,628,595) is pertinent because Sasa teaches an optimum recording power under a variation of recording speeds.

Lee et al. (6,577,570) is pertinent because Lee teaches an optimum recording power under influence by the rotational elements of an optical disk.

Takeshita (6,556,524) is pertinent because Takeshita teaches an optimum recording power under a selected recording speed.

Nakajo (6,504,806) is pertinent because Nakajo teaches an optimum recording power having a recording strategy storing section.

Nakao (6,320,832) is pertinent because Nakao teaches an optimum recording power under a variation of recording speeds.

10. Any response to this action should be mailed to:
Commissioner of Patents and Trademarks Washington, D.C. 20231
Or faxed to:

(703) 872-9306 (for formal communications intended for
entry. Or:

(703) 746-6909, (for informal or draft communications,
please label "PROPOSED" or "DRAFT")

Hand-delivered responses should be brought to Crystal Park
II, 2021 Crystal Drive, Arlington. VA., Sixth Floor
(Receptionist).

Any inquiry of a general nature or relating to the status
of this application should be directed to the Group
receptionist whose telephone number is (703) 305-4700.

Any inquiry concerning this communication or earlier
communications from the examiner should be directed to Kim CHU
whose telephone number is (703) 305-3032 between 9:30 am to
6:00 pm, Monday to Friday.

la 2/16/05.

Kim-Kwok CHU
Examiner AU2653
February 16, 2005

(703) 305-3032

WHAT IS CLAIMED IS:

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1. An optical disk device for writing
information on an optical disk, said optical disk device
having an APC (Automatic Power Control) part for
monitored driving of a laser diode, said optical disk
10 device comprising:

preparation means for searching an unused
partition of a test area of said optical disk and
reading out a reference power value from said optical
disk;

15

APC-turn off means for turning off said APC
part when it is determined that the recording speed
exceeds a predetermined speed;

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first OPC (Optimum Power Control) means for
obtaining a first optimum writing power value by writing
on said unused partition by driving said laser diode at
a plurality of first test laser power values centered on
said reference power value, reading out said information
recorded on said unused partition and determining the
first optimum writing power value;

25

APC-turn on means for turning on said APC part

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when it is determined that the recording speed exceeds a predetermined speed; and

second OPC (Optimum Power Control) means for obtaining a second optimum writing power value by
5 writing on a subsequent unused partition by driving said laser diode at a plurality of second test laser power values centered on said first optimum writing power value, reading out said information recorded on said subsequent unused partition and determining the second
10 optimum writing power value.

15 2. The optical disk device as claimed in claim 1, wherein a number of said second test laser power values are less than a number of said first test laser power values.

20

3. The optical disk device as claimed in claim 1, wherein an interval of said second test laser power
25 values is smaller than an interval of said first test

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laser power values.

5

4. The optical disk device as claimed in claim
1, wherein said first optimum writing power is derived
using a first half of said unused partition of said test
area and said second optimum writing power is derived
10 using a second half said unused partition of said test
area.

15

5. The optical disk device as claimed in claim
1, wherein said first optimum writing power is derived
using a second half of said unused partition of said
test area and said second optimum writing power is
20 derived using a first half said unused partition of said
test area.

25

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6. The optical disk device as claimed in claim
1, wherein a writing operation is performed on the most
recently used partition of the test area at a
predetermined power value and then a writing operation
5 is performed on said unused partition at said plurality
of first test laser power values.

10

7. The optical disk device as claimed in claim
6, wherein said writing operation on said unused
partition at said plurality of first test laser power
values is performed after said optical disk has rotated
15 through one or more revolutions.

20

8. The optical disk device as claimed in claim
1, wherein when the recording speed does not exceed a
predetermined value, said first optimum writing power
value is used as a writing power value.

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9. A method of writing information on an optical disk comprising a the steps of:

- 5 a) searching an unused partition of a test area of said optical disk and reading out a reference power value from said optical disk;
- b) turning off an APC part (Automatic Power Control) part for monitored driving of a laser diode
- 10 when it is determined that the recording speed exceeds a predetermined speed (1X);
- c) for obtaining a first optimum writing power value by writing on said unused partition by driving said laser diode at a plurality of first test laser
- 15 power values centered on said reference power value, reading out said information recorded on said unused partition and determining the first optimum writing power value;
- d) turning on said APC part when it is
- 20 determined that the recording speed exceeds a predetermined speed; and
- e) obtaining a second optimum writing power value by writing on a subsequent unused partition by driving said laser diode at a plurality of second test
- 25 laser power values centered on said first optimum

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writing power value, reading out said information
recorded on said subsequent unused partition and
determining the second optimum writing power value.

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